in lung cancer treatment is variable according to several items: the country where the treatment is performed, hospitalization, administration and drug costs. **METHODS:** A total of 344 Lung cancer patients were selected within the records of a private hospital in Brazil. Of those, 69 patients that received pemetrexed or docetaxel as second line chemo. The chemotherapy protocols considered were: Pemetrexed 500mg/m^2 every 3 weeks, Docetaxel 75mg/m^2 every three weeks, Docetaxel 35mg/m^2 weekly (3 times per cycle) and Docetaxel 40mg/m^2 weekly (3 times per cycle). HRU frequency (hospitalization, clinical visits, complementary examinations, medication, transfusions) related to lung cancer treatment was reviewed retrospectively from clinical records. The costs were calculated in dolars (US$) following the original records for each cycle. The values for neutropenia were also calculated. **RESULTS:** Pemetrexed 500mg/m^2 every three weeks was used by 20.5% of the patients; Docetaxel 75 mg/m^2 every three weeks by 17.1%; Docetaxel 35mg/m^2 weekly (3 times per cycle) by 8.1% and Docetaxel 40mg/m^2 weekly (3 times per cycle) by 1.1%.The cost of each cycle was U$6897.00 for Pemetrexed 500mg/m^2; US$3041.00 for Docetaxel 75mg/m^2; US$5919.00 for Docetaxel 35mg/m^2 and US$6669.00 for Docetaxel 40mg/m^2. The costs of neutropenia and febrile neutropenia episodes were respectively US$1310.00 and US$6000.00. **CONCLUSION:** Besides the cost of the drug is a mean point in health resources utilization we have to consider other variables to have a clear picture of each chemotherapy scheme costs and were the resources have been used. Since the chance of toxicity is different for every kind of treatment, all the inputs to reach the total cost of treatment are necessary.

PCN13

BUDGET IMPACT ANALYSIS OF SORAFENIB IN THE TREATMENT OF HEPATOCELLULAR CARCINOMA IN CANADA

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OBJECTIVE: To determine the financial impact of sorafenib in the treatment of hepatocellular carcinoma (HCC), the most common form of liver cancer, from a Canadian provincial drug plan perspective for 2008–2010. **METHODS:** A prevalence-based approach was used to estimate the number of HCC patients in Canada. Liver cancer prevalence from 2008–2010 was estimated using the GLOBOCAN 2002 database, supplemented with actual and projected Canadian liver cancer incidence figures from 2003–2010, and survival rates for each stage of HCC. Liver cancer figures were condensed to HCC figures as ~90% of liver cancers are HCC. HCC figures were then segmented using the Barcelona Clinic Liver Cancer staging system and diagnosis rates provided the clinical community. Age and geographic distribution patterns, market share assumptions and provincial drug plan coverage factors were then applied to the HCC figures to determine the number of HCC patients eligible for treatment with sorafenib and coverage from the province. Drug costs including wholesale and pharmacy mark ups were multiplied with the median treatment duration and patient number to determine the financial impact of sorafenib. **RESULTS:** The prevalence of liver cancer in Canada in 2008 has been estimated to be 1284 increasing to 1324 by 2009 and 1366 by 2010. Of these an estimated 206 HCC patients will be treated with sorafenib in 2008, increasing to 321 in 2009 and 438 in 2010. The number of HCC patients treated with sorafenib that are eligible to receive coverage through their provincial drug plan are 154, 240 and 328 in 2008, 2009 and 2010 respectively. The financial impact of sorafenib to the provincial drug plans is $3.7 million in 2008, $7.1 million in 2009 and $9.7 million in 2010. **CONCLUSION:** The financial impact of sorafenib to the provincial drug plans will range from $3.7 million to $9.7 million from 2008–2010.

PCN14

A SYSTEMATIC REVIEW OF ECONOMIC ANALYSES OF HER2 TESTING & TRASTUZUMAB THERAPY

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OBJECTIVE: We sought to systematically review economic analyses (EAs) of HER2 testing and trastuzumab therapy in all stages of breast cancer (BC) with specific attention to the methodological quality, quantification of uncertainty and incorporation of diagnostic test characteristics. **METHODS:** EAs of trastuzumab in BC or HER2 diagnosis with either immunohistochemistry or fluorescence in situ hybridisation techniques were considered. Biosis, Cochrane, CRD, EconLit, Embase, HEED, Medline and PubMed databases were searched. The reference lists of each retrieved article, relevant reviews, and abstracts of the San Antonio Breast Cancer Symposium were hand-searched. Citations were reviewed in duplicate and relevant articles were qualitatively rated per Drummond. **RESULTS:** Twenty studies, conference abstracts and health technology assessments were selected for full review from among 641 citations as of December 2007 (reviewer agreement kappa = 0.85). Studies examined trastuzumab in metastatic (7/20) or adjuvant (10/20) settings or had a testing focus (4/20). HER2 diagnosis strategy and trastuzumab treatment were evaluated jointly in only one study. Few decision models were calibrated against epidemiological data (3/20). Probabilistic sensitivity analysis was infrequently used to characterise uncertainty (3/20) and decision uncertainty in the form of cost-effectiveness acceptability curves was presented in a single study. The overall reported quality of EAs was comparatively poor. **CONCLUSION:** Testing and treatment were rarely examined in tandem, despite a 2004 EA addressing this very issue in metastatic disease. Given the controversy around trastuzumab funding in many jurisdictions, the need for adequate attention to testing and uncertainty analysis is not met in the literature.

PCN15

MODELING THE COST IMPACT OF POSSIBLE CROSS-PROTECTION DIFFERENCES OF TWO CERVICAL CANCER VACCINES IN CANADA USING MULTIPLE PROBABILISTIC SENSITIVITY ANALYSIS

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OBJECTIVE: Two vaccines against cervical cancer are now available. One reduces the burden of genital warts; with the other the model estimates it may have better cross-protection against oncogenic non-vaccine HPV-types. We aimed to understand the extent to which cross-protection could have an equivalent cost impact and the likelihood this would occur. **METHODS:** A population model was developed in Excel(r) to evaluate the expected annual health care cost of protecting cervical diseases with vaccines against specific HPV-types. The type-specific vaccine effect was assessed on the number of abnormal pap smears, pre-cancer lesions, genital warts and cervical cancer cases prevented. Vaccine effect was calculated by multiplying the proportion of HPV-types per lesion, as reported in the literature, by a range of vaccine efficacy values. A health care perspective was selected, with unit costs (2006 CDN$) for each intervention obtained from official tariff data. No discounting was applied as

results are reported over a one-year period after reaching steady-state level of vaccination. Multiple probabilistic sensitivity analysis was performed to estimate the distribution of the cost difference between the two vaccines by running 5000 iterations with @Risk(r) software in Excel(r) (normal distributions for vaccine efficacy, uniform distributions for HPV typing and costs). **RESULTS:** Multiple probabilistic sensitivity analysis showed an average annual cost difference of $9.3M (CDN) (95% CI: –$10M, +$43M) in favor of cross-protection over genital warts protection. Cross-protection provided additional cost saving with an 86.3% probability. An efficacy for additional cross protection of around 12% would achieve cost neutrality. The difference in cost was most sensitive to vaccine efficacy of cross-protection, the proportion of non-vaccine oncogenic HPV-types in CIN1, and the unit cost of treating CIN1. **CONCLUSION:** A vaccine with additional cross-protection of at least 12% is likely to offset the costs associated with the protection against genital warts in the Canadian health care system.

PCN16

COST DIVERSITY OF DRG BASED COLORECTAL CANCER THERAPIES IN HUNGARY

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OBJECTIVE: In Hungary, costs of anti-cancer treatments are covered by hospitals' budget, and funds for therapy expenditures provided from the National Health Fund Administration, based on DRG accounts. The goal was to investigate the real cost of treatments, and assess a comparison of DRG based remittance and expenditures of therapies. **METHODS:** Cost analysis of CRC chemotherapy-protocols has been conducted from the perspective of Oncology Departments. Regimens of 5-fluorouracil+/–leukovorin, irinotecan, cetuximab, bevacizumab and oxaliplatin have been investigated, focusing on cost of medication, hospitalisation and total expenditure of protocols. **RESULTS:** Real expenditures of protocols were assessed. The range of drug related costs were USD$18.20–3085.80 as expenditures of hospitals. Total expenditures of chemotherapy-regimens have been assessed and compared to allocation of remittances from the National Health Fund Administration. The value of remittances have been found between USD$405.70 and USD$2875.20, depending on protocols. The gap analysis of drug expenditures and remittances has resulted in a wide range of USD$–347 to USD$1611. The ratio of drug related expenditures and total remittance of hospitals showed diversity from 5% to 107%. **CONCLUSION:** The analysis showed that fixed DRG values had not represented real expenditures of chemotherapies of CRC treatment. Remittances should have been validated regularly. Neither priority, nor incentive elements, have been found in protocols containing molecules with superior efficacy or improved safety. In general, Oncology Departments are motivated to use protocols, containing generic compounds with low expenditures and to achieve significant savings in hospitals' budget.

WITHDRAWN **PCN17**

WITHDRAWN **PCN18**

PCN19

A COST-EFFECTIVENESS ANALYSIS OF LAPATINIB AT A TERTIARY CANCER CENTER

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OBJECTIVE: As new agents become available for the treatment of diseases, there exists a need to evaluate the cost-effectiveness of the agents. This study calculates the cost-per life-year saved and the budget impact of lapatinib, a new dual tyrosine inhibitor as part of the formulary evaluation process at a major tertiary cancer center. **METHODS:** A decision analytical model was developed to estimate the incremental cost-effectiveness of lapatinib for advanced breast cancer. The model estimates the incremental cost-effectiveness of two strategies: combination therapy of lapatinib with capecitabine compared to capecitabine alone. The outcome of interest was time to disease progression, based on randomized clinical trials (RCTs). Direct medical costs from the institutional perspective were utilized and were calculated for a one year time period. One-way and two-way sensitivity analysis on the rate of disease progression for monotherapy and combination therapy was conducted. In addition, a budget impact model was also calculated for the institution. **RESULTS:** Based on outcome estimates from RCTs and the application of the institutional costs, the cost-per-life-year saved for lapatinib for treatment of advanced breast cancer was $108,300. One-way sensitivity analysis of the combination response (0–50%) indicated that lapatinib's cost-effectiveness ratios ranged from $100,000 to $119,000 per life-year saved. Two-way sensitivity analysis indicated that the majority of the time monotherapy was more cost-effective. The lapatinib combination was only considered cost-effective, if the response rate of the monotherapy never exceeded 14.6%. The budget impact model, which incorporated both on-label and off-label usage of lapatinib, estimated that the institution will utilize about 10 million dollars worth of drugs annually, based on acquisition costs. **CONCLUSION:** Lapatinib appears to have similar cost-effectiveness in comparison with other targeted oncology agents. Post evaluation economic analysis will be conducted to determine how closely the economic model predicted the utilization of lipatinib at the institution.

PCN20

COST ANALYSIS OF IMMUNOGLOBULIN PROPHYLAXIS IN CHRONIC LYMPHOCYTIC LEUKEMIA

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OBJECTIVE: Patients with chronic lymphocytic leukemia (CLL) are often treated with prophylactic intravenous immunoglobulin (IVIG) to reduce risk of infection, although increased survival has not been demonstrated with use. The objective of this study was to estimate direct medical costs of IVIG versus no prophylaxis over 12 months. **METHODS:** Costs were estimated from the government (Medicare) perspective when available, or calculated from the literature in 2007 US dollars. Assuming a regimen of 400mg/kg every four weeks for one year, 12 administrations for a 70kg patient was calculated using a reimbursement of $30 per 500mgs. Estimated resources costs were $24 per preparation and $144 per administration. Infections were considered minor, moderate, or severe and both costs and probabilities of infection were extracted from previous studies. Risk of any infection with IVIG use was 36% and with no prophylaxis, 56%. Reported infections per year among patients with 1+ infection was 1.4 with IVIG use and 2.25 infections with no prophylaxis. **RESULTS:** Under the described model, the total cost per year of prophylactic IVIG = $24,512 per patient. The weighted average cost per infection was $1688. The average weighted infection cost (AWIC) of minor infections = $12; moderate, AWIC = $96; and severe, AWIC = $2256. In comparison, total cost with no prophylaxis was $4500 per patient year. The weighted average cost of one infection with no prophylaxis = $2000. The AWIC of minor